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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/565,536

01/19/2006

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2862

7590 09/25/2008  
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EXAMINER

JANCA, ANDREW JOSEPH

ART UNIT

PAPER NUMBER

1797

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/565,536	<b>Applicant(s)</b> DIOSSE ET AL.	
	<b>Examiner</b> Andrew Janca	<b>Art Unit</b> 4112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/19/2006</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Summary***

1. This is the initial Office action based on the 10/565,536 application filed July 22, 2004.
2. Claims 1-13 are pending and have been fully considered.
3. Line numbers in patents will be referred to by "xx:yy", where "xx" is the column number and "yy" are the line numbers, or in the absence of numbered columns by "xx:yy" where "xx" is the page number and "yy" the line number. Paragraphs in published US applications will be referred to by "Pzz", where "zz" is the paragraph number.

### ***Priority***

4. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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6. Claims 1-4, 7, 11, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 98/34721 by DAVIES (plural).

7. With regard to independent claims 1 and 7, DAVIES disclose a method and apparatus for obtaining a mixture of solid components

- a. in a predetermined ratio (4:29-30);
- b. comprising reservoirs 5 and 6 for each individual component;
- c. providing for each component a fluidized flow rate corresponding to its ratio in the mixture (4:1-2): if a plurality of substances enter a mixture at the same time, and continue to flow throughout the mixing procedure, the proportion of each (and hence the ratios between these proportions) in the final mixture must necessarily be equal to the rate at which they flowed into it:  $(\text{rate in kg/s}) \times (\text{net time in s}) = (\text{net total in kg})$ . DAVIES disclose several possible means of controlling these individual flow rates (3:37-39, 4:12-17, 4:27-33), and hence means of controlling the final proportions of the mixture;
- d. adjusting the flow rate of each, in real time while they are flowing (3:37-40, 4:27-33);
- e. which are conveyed to a static mixer, inclined flow surface 3 (figure 1) through a common inlet, the region where flow 24 intersects flow 23, exclusively by gravity (2:38-39);
- f. which continuously produces a flow of the mixture at an outlet, hopper 7 (3:15-17).

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8. With regard to claims 2, 3, and 11, in the embodiment of DAVIES' figure 1 the mixing of the two (or more: 5:1-4) substances is effected by the body of the mixer itself, flow surface 3, which is a static obstacle to their further and separate fall under gravity, and which hence constrains them on a common surface where they must disperse from their independent streams, and mix (DAVIES claim 4).

Were flow surface 3 absent, the substances would not mix.

9. With regard to claims 4 and 12, DAVIES disclose means for monitoring the flow rates, and adjusting them in real time (4:27-33): in particular a Man Machine Interface and a Programmable Logic Controller (processing means) being a computer (line 33), controlling sliding plate valves or apertures (line 31), in order to control the rate of flow material (line 28) from one hopper (adjusting the flow rate of one component, while leaving the other fixed, adjusts the former component's flow rate based on and relative to the flow of the latter component) or both hoppers (line 27), in order to control the proportions of the mixed materials (lines 29-30) in real time (line 30).

### ***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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11. Claims 5, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 98/34721 by DAVIES in view of US 3,767,170 to MORGENSTERN.

- a. With regard to claims 5 and 9, DAVIES disclose reservoirs with lateral walls and an opening at their bottom, hoppers 5 and 6 (figure 1), but do not explicitly teach the introduction of air into either of them to improve its component's flow.
- b. However, MORGENSTERN discloses the injecting of air into his powdered cement flow to make it more flowable (3:31-44), including into its source container hopper 14 (5:56-59); and further teaches a grid permeable to air but not to the solid, air pad 82, to the neighborhood of which air is diverted through conduit 78 (5:44-47).
- c. DAVIES and MORGENSTERN are analogous arts because they are from the same field of endeavor, the mixing of cement to make concrete.
- d. At the time the invention was made, it would have been obvious to one of ordinary skill in the art of mixing cement to include means such as those of MORGENSTERN to introduce and control the flow of air into the cement mix of DAVIES. The motivation would have been to make the cement more flowable, to facilitate more rapid mixing (3:31-44).  
  
Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

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- e. With regard to claim 10, DAVIES discloses (figure 1) that the vertical walls of their hoppers form an angle to the vertical of approximately 0 degrees.
12. Claims 6, 8, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over DAVIES in view of US 2003/0072208 A1 by RONDEAU et al..
- a. With regard to claim 6, RONDEAU et al. teach that using a cement mixing machine such as that of DAVIES to mix cement into a slurry, and pumping it into the well, is an application of such mixers common in the art (P3). DAVIES and RONDEAU et al. are analogous arts because they are from the same field of endeavor, the mixing of cement to make concrete. The motivation to use the machine of DAVIES to mix and pour cement slurry into the annulus of a well, would have been to isolate the various producing zones of a newly drilled oil well from each other (P3).
  - b. With regard to claim 8, RONDEAU et al. teach that the use of knife gate valves as adjusting means is a common practice in the art of mixing cement (P63).
  - c. With regard to claims 12 and 13, RONDEAU et al. teach a computer interface for an operator to monitor, calculate, and control the several flows of the mixing machine; which is aided by a sensor control loop (P62-63) including flow meter sensors 104 and 128 (P32 and P35 respectively) to control the flow rates of the flowing materials by means of controllable valves, such as valve 304 (P24). Since DAVIES teach control means to control the action of the various valves in their apparatus (4:27-

33) as outlined above, it would have been obvious to one of ordinary skill in the art of mixing substances to provide mechanical sensor means to supply the control means of DAVIES with needed information about the state of the system it means to control. Alternatively, if DAVIES should be considered to implicitly teach the use of a human operator as sensor means, monitoring the various flows by eye, it would have been obvious to one of ordinary skill in the art to replace the human observer with a mechanical or automatic device. The Courts have held that broadly providing a mechanical or automatic means to replace manual activity which has accomplished the same result involves only routine skill in the art: for example, the addition to a prior art factory of a computer to automatically adjust local environmental conditions in response to sensor inputs, in place of a human being previously employed for the same. See *In re Venner*, 120 USPQ 192 (see MPEP 2144.04(III)).

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.: US 4,525,071 to HOROWITZ et al, relevant for its teaching of a cement mixing system with integrated control means.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Janca whose telephone number is (571) 270-5550. The examiner can normally be reached on M-Th 8-5:30.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Barbara Gilliam can be reached on (571) 272-1330. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AJJ

/Barbara L. Gilliam/  
Supervisory Patent Examiner, Art Unit 4128